



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/073,938

02/14/2002

Steven L. Seed

P 281571

5330

42624

7590

09/11/2006

DAVIDSON BERQUIST JACKSON & GOWDEY LLP  
4300 WILSON BLVD., 7TH FLOOR  
ARLINGTON, VA 22203

EXAMINER

BILGRAMI, ASGHAR H

ART UNIT

PAPER NUMBER

2143

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/073,938	<b>Applicant(s)</b> SEED ET AL.	
	<b>Examiner</b> Asghar Bilgrami	<b>Art Unit</b> 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-65 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/26/03, 05/08/02</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jungck (U.S. Pub. No. 2005/0021863) and Sim (U.S. Pub. No. 2003/0031176).

3. As per claims 1, 16, 23, 38, 45 & 59 Jungck disclosed a system for managed object replication and delivery, comprising: a plurality of edge servers in a network; and a plurality of parent servers in the network (paragraph.19), wherein at least one of the plurality of edge servers and the plurality of parent servers (paragraph.25): direct a request by a client for an object to an edge server in the network (paragraphs. 27 & 35), if the edge server has the requested object, serve the requested object to the client (paragraph.56), otherwise, redirect the client request to a server that has the requested object and serve the requested object to the client(paragraph.57). However Jungck did not explicitly disclose if the requested object is popular, replicate the requested object to the edge server.

In the same field of endeavor Sim disclosed that if the requested object is popular, replicate the requested object to the edge server (paragraphs. 47 & 52).

It would have been obvious to one in the ordinary skill in the art at the time the invention was made to have incorporated to replicate an object at the edge server based on its popularity as disclosed by Sim in a method for managed object replication and delivery as disclosed by Jungck in order to make the delivery system more scalable resulting in lower traffic load on the network and providing most relevant & popular content to the requester more quickly making the system more robust and efficient.

4. As per claims 2, 24 & 46 Jungck-Sim disclosed the method of claim 1, wherein redirecting the client request to a server comprises redirecting the client request to a parent server in the network that has the requested object and serving the requested object to the client from the parent server (Jungck, paragraph.57).

5. As per claims 3, 25 & 47 Jungck-Sim disclosed the method of claim 1, wherein redirecting the client request to a server comprises redirecting the client request to a parent server in the network that does not have the requested object, recursively redirecting the request until a parent server in the network having the requested object is reached and serving the requested object to the client from the parent server (Jungck, paragraph.57).

6. As per claims 4, 26 & 48 Jungck-Sim disclosed the method of claim 1, wherein redirecting the client request to a server comprises redirecting the client request to an origin

server if the requested object is not available at a parent server in the network and serving the requested object to the client from the origin server (Jungck, paragraph.57).

7. As per claims 5, 27 & 49 Jungck-Sim disclosed the method of claim 1, wherein directing a request by a client for an object to an edge server comprises directing a request by a client for an object to a best or optimal edge server (Jungck, paragraph.63).

8. As per claims 6, 28 & 50 Jungck-Sim disclosed the method of claim 5, wherein a best or optimal edge server comprises an edge server selected using at least one of a determination based on a best repeater selector, the likelihood of a copy of the requested object being available at the edge server, and the bandwidth between the edge server and the client (Jungck, paragraphs.63 & 71).

9. As per claims 7, 29 & 51 Jungck-Sim disclosed the method of claim 1, wherein replicating the requested object to the edge server comprises replicating the requested object to the edge server from a parent server (Sim, paragraphs, 47 & 52).

10. As per claims 8, 9, 30, 31, 52, 53 & 65 Jungck-Sim disclosed the system of claim 59, wherein at least one of the plurality of edge servers and the plurality of parent servers further replicate the requested object from an origin server if the requested object is popular and the requested object is unavailable on pares servers in the network (Sim, paragraphs, 47 & 52).

Art Unit: 2143

11. As per claims 10, 21, 32, 43, 54 & 63 Jungck-Sim disclosed the method of claim 1, wherein whether the requested object is popular is determined using at least a request rate for the requested object (Jungck, paragraph.58).

12. As per claims 11, 12, 17, 18, 33, 34, 39, 40, 55 & 60 Jungck-Sim disclosed the system of claim 45, wherein at least one of the plurality of edge servers and the plurality of parent servers further delete an object if the object is no longer popular (Sim, paragraph, 230).

13. As per claims 13, 19, 35, 41, 56 & 61 Jungck-Sim disclosed the method of claim 1, wherein replicating the requested object comprises replicating the requested object in accordance with a dynamic replication threshold (Sim, paragraph, 230).

14. As per claims 14, 20, 36, 42, 57 & 62 Jungck-Sim disclosed the method of claim 1, wherein replicating the requested object comprises: replicating the requested object when a popularity of the requested object is great than a threshold popularity and there is enough storage to replicate the requested object; otherwise, if there is not enough storage to replicate the requested object, i) comparing the popularity of the requested object against a popularity of a least popular object in the storage, ii) if the popularity of the requested object exceeds the popularity of the least popular object in the storage, deleting the least popular object from the storage, iii) repeating i) and ii) until enough storage is available for the requested object or the

Art Unit: 2143

popularity of the requested object is less than the popularity of the least popular object in the storage, and iv) replicating the requested object if there is enough storage (Sim, paragraph, 230).

15. As per claims 15, 22, 37, 44, 58 & 64 Jungck-Sim disclosed the method of claim 1, wherein serving the requested object is performed separately from replicating the requested object (Jungck, paragraphs.63 & 71).

### ***Response to Arguments***

Applicant's arguments filed June-12-2006 have been fully considered but they are not persuasive.

16. When reviewing a reference the applicants should remember that not only the specific teachings of a reference but also reasonable inferences which the artisan would have logically drawn therefrom may be properly evaluated in formulating a rejection. In re Preda, 401 F. 2d 825, 159 USPQ 342 (CCPA 1968) and In re Shepard, 319 F. 2d 194, 138 USPQ 148 (CCPA 1963). Skill in the art is presumed. In re Sovish, 769 F. 2d 738, 226 USPQ 771 (Fed. Cir. 1985). Furthermore, artisans must be presumed to know something about the art apart from what the references disclose. In re Jacoby, 309 F. 2d 513, 135 USPQ 317 (CCPA 1962). The conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion in a particular reference. In re Bozek, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969). Every reference relies to some extent on

Art Unit: 2143

knowledge of persons skilled in the art to complement that is disclosed therein. In re Bode, 550 F. 2d 656, 193 USPQ 12 (CCPA 1977).

17. Applicant argues with reference to claims 1, 16, 23, 38, 45 & 59 that Jungck does not disclose redirecting a request for an object from an edge server when that edge server does not have the requested object.

18. As to applicants argument first the examiner would like to clarify the fact that a sever can be an edge sever or a cache server). Having a server at the networks edge (edge server) does not change the nature of the server itself, its purpose is to serve the data that is being requested from it (please read paragraph 56 on page 7 of Jungck). Jungck clearly discloses that when a content request is not in the cache server the cache server forwards (redirects) the to the content source (I.E. origin server) which serves the content to the requester (please read paragraph 57 on pages 7 & 8).

19. Applicant argued that Sim does not disclose replication of object to the edge server if the object is popular.

20. As to applicant's arguments examiner would advice the applicant to read paragraphs 19, 20, 47 & 52 of Sim which explains the replication of most sought after (popular) content (object) into the edge server.



Art Unit: 2143

21. Applicant argues that no proposed combination of Jungck and Sim would produce the presently claim invention.

22. Examiner respectfully points Applicant to read the rejection made on line 3 of this office action, which clearly disclose how these two references can be combined to show the applicant's claimed invention.

### *Conclusion*

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asghar Bilgrami whose telephone number is 571-272-3907. The examiner can normally be reached on M-F, 8:00-5:00PM.

Art Unit: 2143

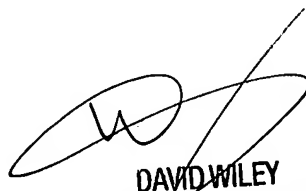
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



AB

Asghar Bilgrami  
Examiner  
Art Unit 2143



DAVID WILEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100